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MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) COMPLIANCE INSPECTION

KING COUNTY, WASHINGTON

INSPECTION REPORT

Inspection Dates:
July 17-18, 2013

Report Date:
September 30, 2013

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Section 1.0 Introduction

On July 17–18, 2013, the U.S. Environmental Protection Agency (EPA), Region 10 and an EPA contractor, PG Environmental, LLC (hereinafter, collectively, the EPA Inspection Team) conducted an inspection of the Municipal Separate Storm Sewer System (MS4) Program of King County, Washington. Discharges from the King County MS4 are regulated under the *Phase I Municipal Stormwater Permit – National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Discharges from Large and Medium Municipal Separate Storm Sewer Systems* (hereinafter, the Permit; see Appendix A), issued by the State of Washington Department of Ecology (Ecology) and effective September 1, 2012. King County (hereinafter, the County) maintains coverage under Permittee Coverage No. WAR04-4501. Permit modifications became effective on June 17, 2009 and September 1, 2010. The Permit expired on February 15, 2012, and on August 1, 2012 Ecology reissued the Permit, with limited changes, effective September 1, 2012 through July 31, 2013. The County initially received coverage under NPDES municipal stormwater permits issued by Ecology in 1995.

The Permit authorizes the County to discharge stormwater and certain non-stormwater flows to surface waters and to groundwaters of the state from the MS4 owned or operated by the County in the permitted area (defined as areas covered by the Phase I Municipal Stormwater Permit) under the Permit terms and conditions. Section S5.A of the Permit requires the County to implement a Stormwater Management Program (SWMP). The County Municipal NPDES Permit Coordinator confirmed that the County is currently operating under the 2013 SWMP, dated March 2013 (hereinafter, the County's 2013 SWMP Plan; see Appendix B).

King County is on the Puget Sound located in the west-central area of Washington state. According to County staff, the permitted area encompasses approximately 2,300 miles or roughly two-thirds of the geographic area of the County. County staff indicated that approximately 15 percent of the population of the County is located within the County's permitted area. County staff also explained that the County's MS4 had approximately 14,000 catch basins mapped; these basins discharge to local waterways; the lakes, rivers, and streams which eventually discharge to the Puget Sound. County staff stated that the County does not rely on any other entities/local governments for the implementation of its SWMP.

With respect to the Permit, the County's NPDES responsibilities are carried out by various county departments and divisions that are responsible for implementing the stormwater program. The County's departments and divisions with roles in the 2013 SWMP Plan include:

- Department of Natural Resources and Parks (DNRP).
    - Solid Waste Division (Solid Waste).
    - Parks and Recreation Division (Parks).
    - Wastewater Treatment Division (Wastewater).
    - Water and Land Resource Division (WLRD).

        - Stormwater Service Section (SWS).
        - Rivers and Floodplain Management Unit (Rivers).
- Department of Transportation (DOT).
    - Road Services Division (Roads).
    - Metro Transit Division (Transit).
    - Airport Division (Airport).
- Department of Executive Services (DES).
    - Facilities Management Division (FMD).
- Department of Permitting and Environmental Review (DPER).

The purpose of the inspection was to obtain information that will assist EPA in assessing King County's compliance with the requirements of the Permit, as well as the implementation status of the current MS4 program. The inspection schedule is presented as Appendix C.

The EPA MS4 program compliance inspection evaluated facilities, activities, and projects within the County. The inspection focused on the following five SWMP components described in Section S.5 of the Permit:

- Public involvement and participation.
- Controlling runoff from new development and redevelopment.
- Source control program for existing development.
- Illicit connections and illicit discharges detection and elimination.
- Operation and maintenance program.

The EPA Inspection Team did not observe deficiencies regarding the Public Involvement and Participation program during the inspection. Therefore, no further discussion of this SWMP components is included in this report. Additionally, deficiencies were not observed regarding Source Control Program for Existing Development and Illicit Connections and Illicit Discharge Detection and Elimination programs. Observations are provided in this report for informational purposes.

The EPA Inspection Team obtained information through interviews with representatives from the County's departments and divisions listed above, along with a series of site visits, record reviews, and field verification activities within King County. The office session was held to obtain information regarding overall program management, program evaluation, and oversight. In addition, the EPA Inspection Team held a closing conference at the King County offices on July 18, 2013, with representatives from the respective departments attending.

The primary representatives involved in the inspection were the following:

King County MS4 Program Compliance Inspection: July 17-18, 2013	
King County – DNRP, WLRD	Christie True, Director Mark Isaacson, Division Director John Taylor, Assistant Division Director
King County – DNRP, WLRD, SWS	Curt Crawford, Section Manager Doug Navetski, Municipal NPDES Permit Manager Ken Krank, Supervising Engineer Giles Pettifor, Assistant Municipal NPDES Permit Coordinator Dave Hancock, Senior Engineer Tom Lew, Senior Engineer Cynthia Hickey, Senior Engineer Jill Coyle, Project/Program Manager III Mark Preszler, Stormwater Mapping Coordinator
King County – DNRP, Solid Waste	Kevin Kiernan, Assistant Division Director Dinah Day, Permit Coordinator/Environmental Program Coordinator Pam Badger, Stormwater Supervisor (Special Waste and Environmental Data Collection Unit) Matt McCollum, Senior Wastewater Treatment Operator (Landfill Operations)
King County – DNRP, Parks	David Sizemore, Senior Engineer
King County – DNRP, Wastewater	Betsy Cooper, NPDES Administrator/Wastewater Planner
King County – DES	Megan Smith, Environmental Policy Advisor
King County – DES, FMD	Kathy Brown, Division Director Bill Eckel, Permit Lead/Project Manager
King County – DOT	Harold Taniguchi, DOT Director
King County – DOT, Airport	Peter Dumaliang, Environmental Engineer/Permit Lead

King County MS4 Program Compliance Inspection: July 17-18, 2013	
King County – DOT, Roads	Brenda Bauer, Roads Division Director Debbie Arima, Traffic and Road Maintenance Manger (Road Maintenance and Operations Section) Brent Dhoore, Environmental Scientist II Jennifer Keune, Environmental Scientist III Rob Fritz, Environmental Scientist/Supervising Ecologist
King County – DOT, Roads, Engineering Services Section	Michael O'Neil, Engineer IV Rose LeSmith, County Traffic Engineer and Managing Engineer Jon Cassidy, Maintenance Engineering Manager Tina Morehead, Engineer III
King County – DOT, Transit	Talon Swanson, Environmental Specialist Jerry Rutledge, Transit Manager
King County – DOT, Roads, Roads Maintenance Section	Steve Wilson, Supervisor II Ken Thurman, Crew Chief Daisy Dailey, Crew Chief
King County – DPER	Molly Johnson, Development Engineer Doug Dobkins, Engineer III Jarrod Lewis, Project Manager
Washington State Department of Ecology Representatives	Rachel McCrea, Municipal Stormwater Specialist Anne Dettelbach, Municipal Stormwater Specialist
EPA Representatives	Julie Congdon, MS4 Inspector and Enforcement Coordinator Dustan Bott, MS4 Inspector Sandra Brozusky, MS4 Inspector
EPA Contractors	Wes Ganter, PG Environmental, LLC Candice Owen, PG Environmental, LLC Kettie Holland, PG Environmental, LLC

Section 2.0 Information Obtained Regarding Compliance with the Permit

Prior to the inspection, the EPA Inspection Team formally requested the County to provide specific documentation for review by the team and to have specific documentation available for review at the time of the inspection. The EPA Inspection Team provided King County with a written list of requested records on May 29, 2013 (hereinafter, EPA Records Request; see Appendix D, Exhibit 1). In response, on July 1, 2013, King County provided the EPA Inspection Team with an email including electronic copies of the documents initially requested. In addition, King County made additional documents available during the inspection and provided documents on a compact disk after the inspection. The complete spreadsheet and associated documents are hereinafter referred to as the King County Response Inventory, which is presented as Appendix D, Exhibit 2. The EPA Records Request and King County Response Inventory are referenced, as applicable, throughout this inspection report.

During the inspection, the EPA Inspection Team obtained documentation and other supporting evidence regarding compliance with the Permit and implementation of the County's 2013 SWMP Plan. The presentation of inspection observations in this report does not constitute a formal compliance determination or notice of violation; rather, it identifies potential Permit non-compliance and program deficiencies. Program deficiencies are areas of concern for successful program implementation. All referenced documentation used as supporting evidence is provided in Appendix D, the Exhibit Log; photo documentation is provided in Appendix E, the Photograph Log.

During the inspection, the EPA Inspection Team identified multiple elements of the King County MS4 program that were noteworthy:

1. The County appeared to have an experienced and dedicated staff who worked together to implement and assess the performance of its stormwater program. Staff within each department routinely meet and collaborate, and the County has established a written process to distribute stormwater program responsibilities across multiple departments. Additionally, the County continues to expend significant resources to convene, support, and participate in numerous regional workgroups and forums with adjoining jurisdictional stormwater programs.
2. The County's oversight of properties' operations and maintenance had a number of positive attributes and appeared to be effective. For example, the FMD operation and maintenance program included 40 developed properties that were inspected by FMD every other year with SWS staff performing inspections in the alternate years. In addition, roughly 1,200 orphan-tax properties owned by the County were inspected by county staff on a 5-year cycle in accordance with a prioritized plan. In another example, Roads had approximately 21 properties with Ecology Sand and Gravel General Permits that require stormwater pollution prevention plans. Roads staff performed inspections at these properties every other year with SWS staff performing inspections in the alternate years. Roads

staff explained that extensive annual training was conducted for all Roads employees. Similar property oversight programs appeared to be implemented for Solid Waste and Parks.

3. The County's Source Control and Illicit Connections and Illicit Discharge Detection and Elimination programs appeared to be highly effective. County staff in these programs had been cross-trained on various elements of the programs as well as sound processes and procedures. The County had implemented three programs to comply with the related Permit requirements: (1) outfall reconnaissance, (2) source tracing, and (3) business inspection program. The Outfall Reconnaissance Inventory (ORI) Program was well developed, used a logical prioritization process, and included a tiered investigation process consisting of visual inspection, investigation of suspected illicit connections or illicit discharges, and source tracing, if required. To facilitate the inspection process, the County had developed detailed and useful map books to assist in inspectors' searches for outfalls. The County was also in the process of developing mapping applications on tablet computers to record information in the field. More than 2,000 outfalls had been inspected since 2007.

   The source tracing program used indicators to identify specific areas of concern within the MS4. In select instances, a combination of bacterial source tracking and dye testing were utilized to eliminate sewer connections to the MS4 in various areas of the County. The bacterial source tracking was based on the use of a host-specific bacteria called *Bacteroidales* to trace human sources of fecal pollution. The County had recently discovered two illicit connections through this process, and efforts were continuing in the White Center area where persistent bacterial contamination has been observed.

   The business inspection program appeared to be well established with proven standard operating procedures (SOPs) and was staffed with qualified inspectors. The program included water quality audits, which focused on stormwater pollution prevention, and the source control program, which had a broader multi-media focus.

   Last, the County's participation in the Interagency Compliance Team (ICT), a King County-sponsored subcommittee of the Interagency Resource for Achieving Cooperation, appeared highly effective at achieving compliance at businesses with one or more environmental deficiencies. The ICT is composed of representatives from EPA, Puget Sound Clean Air, Labor & Industries, Seattle Fire Department, municipalities, WA State Patrol, Seattle/King County Public Health, and various Ecology and King County programs.

4. The DPER's up-front plan review and approval process for small sites was well documented. The use of one County staff member to provide oversight through the entire single family residence permitting and construction process appeared to be effective at fostering consistent oversight through the entire project life. The EPA Inspection Team reviewed various plan review SOPs, checklists, and inventories during the inspection. Additionally, the County described that building inspectors were no longer the frontline temporary erosion and sediment

control (TESC) inspectors and instead serve an ”eyes and report” function for observed problems.

5. The County is in the process of deploying technological improvements to enhance the tracking and management of County stormwater infrastructure and stormwater permit obligations. For example, the County is updating and refining its mapping system. During the inspection, county staff stated that not all areas of the County were accurately mapped and therefore some areas continued to be added to the system. County staff also stated that revisions were constantly being made. The County's mapping department was in the process of developing the necessary programs to implement the use of tablet computers by multiple County agencies/departments during field inspections. County staff explained that data collected in the field with the use of tablets and written field notes was being used to update existing MS4 map layers in the County's GIS. Additionally, the enhanced mapping effort would be integrated into the expanded asset management program the County plans to implement over the next two years. County staff stated that a total of $600,000 (i.e., $300,000 per year) has been budgeted for the asset management program. In some cases, various county programs were effectively using upgraded technology that allowed staff to streamline processes required of the County for Permit compliance including data collection, tracking, and analysis. In other cases, technological solutions were not yet being implemented.

Table 1 provides a summary of the EPA Inspection Team's overall inspection observations. Descriptions and details regarding the inspection observations, as well as supporting documentation, are provided in the applicable sections of this MS4 inspection report.

Table 1. Permit (WAR04-4501) Requirements and Potential Program Non-compliance or Deficiencies Identified by the EPA Inspection Team

Program Elements and Permit Requirements	Potential Non-compliance/ Program Deficiency
Programmatic Findings See Section 2.1 of the inspection report for the specific SWMP and Permit references for each program deficiency or item of potential non-compliance.	1. The data management systems implemented throughout the County departments and divisions did not allow a comparable level of documentation and management for each program (Section 2.1.1). 2. The County does not have a plan to retain programmatic knowledge in the event that key staff members leave County employment due to retirement or reductions in force (Section 2.1.2). 3. The County did not apply a uniform enforcement policy throughout its

Program Elements and Permit Requirements	Potential Non-compliance/ Program Deficiency
	stormwater program to achieve compliance with Permit/County regulatory mechanisms' requirements (Section 2.1.3). 4. Records provided by the County did not demonstrate that employee training is well documented (Section 2.1.4). See the referenced section of the inspection report for further discussion of these issues.
Controlling Runoff from New Development, Redevelopment, and Construction Sites Section S5.C.5.a of the Permit requires the County's SWMP to include a program to prevent and control the impacts of runoff from new development, redevelopment, and construction activities. See Section 2.2 of the inspection report for the specific SWMP and Permit references for each program deficiency or item of potential non-compliance.	1. Concerns pertaining to erosion prevention and sediment control BMPs were noted during a site visit at a County-owned construction site (Section 2.2.1). 2. The County's process for conducting and documenting construction inspections lacks sufficient written procedures and documentation (Section 2.2.2). See the referenced section of the inspection report for further discussion of these issues.
Operation and Maintenance Program Section S5.C.9.b.iii(1) of the Permit states that the County shall "implement a program to annually inspect all permanent stormwater treatment and flow control facilities owned and operated by the Permittee, and implement appropriate maintenance action in accordance with adopted maintenance standards…" See Section 2.4 of the inspection report for the specific SWMP and Permit references for each program deficiency or item of potential non-compliance.	1. The County's process for conducting and documenting stormwater facility inspections lacks sufficient written procedures and documentation (Section 2.4.1). See the referenced section of the inspection report for further discussion of these issues.

Section 2.1 Programmatic Findings

During the course of the inspection, the EPA Inspection Team conducted discussions with the County that led to programmatic/program-wide findings. The findings listed below apply to at least two or more departments/divisions within the County.

2.1.1. The data management systems implemented throughout the County departments and divisions did not allow a comparable level of documentation and management for each program.

Various sections of the Permit include record-keeping requirements, for example, section S5.C.9.b.v of the Permit states, "Records of inspections and maintenance or repair activities conducted by the Permittee shall be maintained."

It appeared to the EPA Inspection Team, after discussions with and demonstrations by County departments and divisions, that each group had its own tracking methods and level of sophistication of data management technology. For example, Roads staff demonstrated during the inspection that its catch basin cleaning program was managed through an Excel spreadsheet and that all catch basin inspection observations were entered manually in a time-consuming process. Roads staff also explained that the catch basins selected for cleaning as part of the circuit process were manually selected.

Additionally, the County's source control program staff also explained to the EPA Inspection Team that the majority of inspection-related information collected was stored in a Microsoft Access database, and that this method was becoming insufficient to store, sort, and analyze the collected data. Staff expressed specific difficulties in identifying businesses requiring re-inspection to verify completion of corrective actions or outstanding deficiencies. Staff also stated that completed inspection reports were stored in folders maintained by the inspectors. Newer technologies allow attributes and associated files to be associated with the respective database record (i.e, inventory of regulated facilities). Additionally, because the County does not have a business licensing program, Source Control staff had to compile a list of commercial and industrial sources using various references and their best professional judgment.

Meanwhile, the County's mapping program and DPER had recently upgraded to newer technologies that allowed for more comprehensive information storage, tracking, and reporting.

2.1.2. The County does not have a plan to retain programmatic knowledge in the event that key staff members leave County employment due to retirement or reductions in force.

Throughout the inspection, County staff explained to the EPA Inspection Team that the downturn in the economy, and consequently reduced funding, coupled with continued annexation, caused a number of County departments to reduce staff, sometimes by as much as 50 percent. While senior and highly experienced inspection staff were present in several departments, such as DPER and the Source Control program, the EPA Inspection Team did not encounter written SOPs to provide effective training of new or future staff.

Much of the expertise and day-to-day procedures were based on the best professional judgment of the senior inspectors. The reliance on best professional judgment and the liklihood of additional funding cuts appeared to the EPA Inspection Team to be a barrier to future implementation of the stormwater program.

County staff explained that Roads had, and would continue to, experience significant staff reductions, including their internal stormwater coordinator. Roads appeared to provide a variety of vital programmatic services such as corrective actions for DFM properties, stormwater facilities inspections, and catch basin inspection and cleaning; therefore continued staff reductions could present significant permit implementation challenges.

The County should consider methods to ensure that institutional knowledge on county processes, standards, and recordkeeping is retained through training and documentation. The County should also ensure that future reductions in staff do not impair its ability to adequately implement its stormwater program.

2.1.3. The County did not apply a uniform enforcement policy throughout its stormwater program to achieve compliance with Permit/County regulatory mechanisms' requirements.

Various sections of the Permit include enforcement requirements, for example, section S5.C.7.b.iv of the Permit states, "Each Permittee shall implement a progressive enforcement policy to require sites to come into compliance with stormwater requirements within a reasonable time period."

During the inspection, county staff explained that the County's attorneys had continually expressed concern regarding the use of the word "enforcement" as it referred to required compliance for the County's stormwater program. Instead, county staff stated that they were encouraged to use the term "compliance." At the time of the inspection, the County did not present a uniform enforcement policy or equivalent to require private entities (e.g., contractors, developers, commercial and industrial businesses, and citizens) to comply with the requirements of County code.

Throughout the inspection, the EPA Inspection Team learned that different county departments and divisions had different procedures and timelines for implementing compliance and enforcement actions. For example, DPER presented a flow chart for enforcement of non-compliant construction sites (see Appendix D, Exhibit 3). The Source Control Program was in the process of developing a detailed flow chart and process, based on the County's Industrial Pretreatment Program's enforcement policies, that would provide and document a step-wise path towards ensuring compliance.

Item 30 of the EPA Records Request asked the County to provide "documentation for progressive enforcement policy." In response, the County provided a PDF document titled *Code Enforcement* and an MS Word document titled *Source Control Program Enforcement Overview* (see Appendix D, Exhibits 4 and 5). Neither document is dated. Both documents reference King County Codes 9.12 and 23 and the *Code Enforcement*

document includes a 10-step process and associated flow charts and procedures for achieving compliance. Furthermore, the *Source Control Program Enforcement Overview* includes the following:

> The King County Codes 9.12 and 23 do have specific provisions for employing more stringent enforcement measures including fines. This program was developed and implemented in 1994 but there has been a minimal need to use this document. The focus to date has been to eliminate the enormous back-log of open audit files (done), [sic] ensure the required number of audits are completed, to joint ICT [Interagency Compliance Team] inspections, and to employee [sic] our best methods of persuasion to comply, short of issuing penalties. In the short term, this has been successful.

In summary, the EPA Inspection Team observed that while a code enforcement policy rooted in County code exists, county departments and divisions have developed and applied their own compliance assurance policies.

2.1.4. Records provided by the County did not demonstrate that employee training is well documented.

Various sections of the Permit include training requirements. For example, section S5.C.7.b.v of the Permit states:

> Each Permittee shall ensure that all staff whose primary job duties are implementing the source control program are trained to conduct these activities. The training shall cover the legal authority for source control (adopted codes, ordinances, rules, etc), source control BMPs and their proper application, inspection protocols, and enforcement procedures.

Section S5.C.7.v of the Permit also states, "Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained." Upon review of training documents provided at the inspection, the EPA Inspection Team noted that some departments did not have records for training activities conducted in recent years (i.e., 2011, 2012, or 2013) and did not have comprehensive rosters showing employees' attendance at training sessions. For example, the training content and roster provided by Roads for 2012 appeared to address Permit requirements for staff training (see Appendix D, Exhibit 6). In comparison, SWS did not provide actual documentation for training, but provided a written explanation of training in the department.

Discussions with County staff did not make it evident that followup training was being performed regularly in some departments.

It is unclear that the County is conducting initial and followup training as needed nor is it documenting and keeping records for all training activities performed.

Section 2.2 Controlling Runoff from New Development, Redevelopment, and Construction Sites

Section S5.C.5.a of the Permit requires the County's SWMP to include a program to prevent and control the impacts of runoff from new development, redevelopment, and construction activities. Pursuant to the Permit, pages 20–26 of the County's 2013 SWMP Plan provide an outline of the minimum performance measures for new development, redevelopment, and construction sites.

On July 17, 2013 the EPA Inspection Team conducted site visits at four private and two County-owned construction sites. The primary purpose of the site visits was to observe the County's oversight activities including conducting and documenting inspections. The EPA Inspection Team visited the following active construction sites:

Private sites

- Montessori Children's House.
- Blue Dog South, Short Plan, 4-lot Subdivision.
- Redmond Ridge Urban Planned Development, Residential Home Sites, Division 12.
- Redmond Ridge Urban Planned Development, Recreation Tract.

County-owned sites

- Novelty Hill Road Project.
- West Snoqualmie Valley Slope Stabilization Project.

No specific site deficiencies were observed at three of the four private sites or the Novelty Hill Road project site. Erosion prevention and sediment control issues observed at the West Snoqualmie Valley Slope Stabilization Project are presented below due to the direct relevance to the County's obligations under the Permit. All referenced photographs are contained in Appendix E, Photograph Log. It should be noted that the Redmond Ridge recreation tract site was a large and active site with significant excavation and stockpiled soil hauling occurring. Due to time constraints this site was not thoroughly visited and instead the site visit was used primarily to interview the onsite county inspector.

2.2.1. Concerns pertaining to erosion prevention and sediment control best management practices (BMPs) were noted during a site visit at a County-owned construction site.

According to section S5.C.5.a. of the Permit, the County's SWMP must include a program to prevent and control the impacts of runoff from new development, redevelopment, and construction activities. The program shall apply to private and public development, including roads.

West Snoqualmie Valley Slope Stabilization Project – West Snoqualmie Valley Road, Carnation, Washington

The West Snoqualmie Valley Slope Stabilization Project included stabilizing an eroded roadway and bank adjacent to a wetland leading into the Snoqualmie River (see Appendix E, Photograph 1). County staff stated that the project was nearing completion.

The County's site inspector for the project stated that he was the primary county representative onsite and that he was conducting all forms of oversight during construction. He stated that he ensures that crews onsite follow the specifications outlined by the stormwater pollution prevention plan (SWPPP) and conducts daily inspections to ensure that TESC BMPs are properly maintained. The inspector also stated that the project had begun two weeks prior to the inspection, and he estimated that it would be approximately two weeks until the project was completed. During the site visit, rock and gravel were being placed on the east bank for stabilization. Straw wattles had been placed around the perimeter of the project. According to the site's SWPPP (see Appendix D, Exhibit 7), the straw wattles were to be "set into the slope by hand at 3-4 inches deep." During the site visit it was noted that the straw wattles were staked to the ground but were not entrenched as required by the site SWPPP.

The EPA Inspection Team observed the following with regard to controlling runoff from the construction site:

1. The straw wattle BMPs around the perimeter of the site were not implemented as stated in the site's SWPPP (see Appendix E, Photographs 2, 3, and 4).

2.2.2. The County's process for conducting and documenting construction inspections lacks sufficient written procedures and documentation.

Section S5.C.5.b.vi of the Permit states that the Program shall, "Inspect all permitted development sites involving land disturbing activity that meet the thresholds in S5.C.5.b.i., above, during construction to verify proper installation and maintenance of required erosion and sediment controls." In addition, Section S5.C.5.vi of the Permit states that the Program shall, "Include a procedure for recordkeeping of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records."Also, Page 24 of the 2013 SWMP Plan states, "Inspections are tracked with different methods by various DPER sections using a time tracking/billing system to record site visits and inspections; completion of paper log sheets in the field; and electronic records in a software program called Accela Automation."

County staff within DPER explained that private projects generally are categorized as either residential (small) site or full drainage review construction. The small sites are typically single family residences and for these sites a single DPER engineer is assigned to the site from the initial pre-development meetings through plan review, throughout construction, and ultimately through issuance of a certificate of occupancy. In contrast, the larger sites require a full drainage review with multiple county departments engaged in the plan review and approval process. Once approved, the larger sites are inspected

throughout the construction process by one or more site inspectors employed by DPER. At the time of the inspection one supervisor and four inspectors were dedicated to the inspection of larger sites. These inspectors reside within a different operational group than those tasked with oversight of the small sites.

Prior to the EPA Inspection Team's visit to active construction sites in the field, DPER staff discussed the process for the small and large site TESC and drainage plan submittal and review. The process appeared to be well established with significant levels of oversight. The process followed SOPs and was well documented with forms, a review punch list, and various documents to record the review and permitting process. Documentation was retained throughout the process, clear through project completion. The County provided the EPA Inspection Team with these materials in their response to the EPA Rcords Request, Items 36 – 39.

Prior to and during the site visits, the EPA Inspection Team questioned DPER inspectors on procedures for recording observations made during TESC inspections. The inspectors stated that they did not have a checklist or similar document to record inspection findings in the field, but entered them into the County's tracking system (Accela) either while in the field or upon returning to the office. They additionally stated that if issues were identified while a site representative was not onsite, the inspector would record deficiencies in the tracking system and call the site representative.

County inspectors explained to the EPA Inspection Team that dedicated TESC inspections did not typically occur, but that TESC inspections were incorporated into other types of onsite activities and inspections. For small site development, three inspections are included in the project proponent's permit fee, a total of three hours for the life of the project. All inspections are performed on a call-out basis whereby the project proponent calls one day ahead to arrange for a County inspection. For larger sites, the county inspector or a construction manager would generally be onsite frequently and record observations in a daily log or within Accela. A review of completed inspection reports provided by the County substantiated this process, as TESC observations are largely co-mingled with other site observations.

Furthermore, County enforcement of stormwater requirements associated with new and redevelopment projects relies heavily on the best professional judgement of the inspectors. County staff explained that escalating compliance/enforcement begins with verbal direction and escalates to notice of deficiency, notice of violation, stop work, and bond, however the length of time to comply at each step varies on a case by case basis and use of the escalating compliance/enforcement steps is not guided by written SOPs.

In response to Item 41 of the EPA Records Request, which asked for documentation and tracking of inspection programs including schedules, checklists, and protocol for construction sites, the County provided:

Item 1. Residential (Small Site) Inspection

Inspection process flowchart and inspection checklist.

Item 2. Full Drainage Review Inspection
Pre-construction form, ESC requirements, R/D public rule, construction deficiency notice, construction inspection master punch list.

A review of the documents provided with Item 1 indicates that the documents provide a form for recording inspection dates but did not provide inspection procedures or guidance. At the EPA Inspection Team's request, the County provided three example project files for small site residential projects. These included building permit numbers B12L0234, B11L0043, and B10M1549. Each project file included a Residential Site Inspection Checklist, special conditions, project drawings, and a declaration of covenants. Each of the Residential Site Inspection Checklists includes the inspector signature and date for the "ESC initial installation," "erosion control installation," and "drainage BMP installation," but the project files do not include inspector notes or observations. It was unclear to the EPA Inspection Team if notes or observations were recorded by the inspectors. Additionally, Permit B12L0234 included a separate inspection log, but the log does not indicate that a "Drainage/Erosion Control" inspection was completed. Inspection logs were not provided with the other two permit examples. See Appendix D, Exhibits 8, 9, and 10 for the example residential Site Inspection Checklists.

The EPA Inspection Team reviewed the items provided as Item 2 and noted that the pre-construction form, ESC requirements, and construction inspection master punch list documents provide guidance and requirements for the development community. However, these documents lack defined procedures for County inspectors regarding conducting and documenting inspections and follow up. See Appendix D, Exhibits 11, 12, and 13 for the pre-construction form, ESC requirements, and construction inspection master punch list, respectively.

Contrary to the well-established plan review and approval process, DPER did not provide evidence of a well-documented and regimented process for inspections of large and small sites. While the DPER inspectors were Certified Erosion and Sediment Control Lead (CESCL) inspectors and appeared experienced and fully capable of conducting TESC inspections, they appeared to rely on their best professional judgment to determine the scope of inspections and to assess the adequacy of TESC BMPs deployed onsite. The process for documenting and transmitting inspection findings, communicating deficiencies to site operators, and ultimately achieving compliance also varied from inspector to inspector.

An additional observation made by the EPA Inspection team included:

- Due to a permit tracking database conversion, the County was unable to easily identify permitted construction sites that were inactive. Sites that were stalled or otherwise inactive would be identified by the County when or if the applicant called for an inspection.

Section 2.3 Source Control Program for Existing Development and Illicit Connections and Illicit Discharge Detection and Elimination

Section S5.C.7.a of the Permit requires the County's SWMP to include a program to reduce pollutants in runoff from areas that discharge to municipal separate storm sewers owned or operated by the County. The program must include application of operational and structural source control BMPs at commercial, industrial, and multifamily properties. Pursuant to the Permit, pages 31–35 of the County's 2013 SWMP Plan outline the focus for the County's source control program in 2013.

Section S5.C.8.a of the Permit requires the County's SWMP to include an ongoing program to detect, remove and prevent illicit connections and illicit discharges, including spills, into the municipal separate storm sewers owned or operated by the County. The program must prevent, identify and respond to illicit connections and illicit discharges. Pursuant to the Permit, pages 36–42 of the County's 2013 SWMP Plan outline the focus for the County's Illicit Discharge Detection and Elimination (IDDE) program in 2013.

Note that deficiencies were not observed during the EPA Inspection Team's evaluation of the County's Source Control Program for Existing Development and Illicit Connections and Illicit Discharge Detection and Elimination programs. Observations are provided below for informational purposes.

2.3.1. Observations noted during site visits to evaluate the County's Source Control and IDDE Program.

Consistent with the SWMP, County SWS staff implement both the Source Control and IDDE programs. On July 18, 2013 the EPA Inspection Team conducted a number of field activities with County SWS staff including observing source tracking exercises, outfall reconnaissance investigation (ORI) activities, and business inspections. The primary purpose of the activities was to observe the County's procedures and documentation for these activities. This included reviewing SOPs and tools, interviewing staff and assessing their training, and reviewing the data management and tracking systems.

The EPA Inspection Team observed the following site activites to evaluate the County's Source Control and IDDE programs:

- Dye testing in White Center area (Intersection of 14th Avenue and Roxbury Street).
- ORI inspection at White Center neighborhood (Intersection of 2nd Avenue South and 104th Street).
- Business inspections at Rainier Avenue South and 115th Place.

Summary observations pertaining to the site visits to the White Center area and nearby White Center neighborhood are presented below due to their direct relevance to the County's obligations under the Permit. All referenced photographs are contained in Appendix E, Photograph Log. Note that the EPA Inspection Team did not observe

notable deficiencies at or during the observed activities; however observations from those activities are included below.

Dye Testing in White Center Area – Intersection of 14th Avenue and Roxbury Street

At the time of the inspection, dye testing was conducted at a series of businesses along 14th Avenue to determine if illicit connections were present (see Appendix E, Photograph 5). The county inspector stated that since the County separated the storm system from the combined sewer, illicit connections had been detected in the area. The inspector stated that the sewer district is responsible for correcting the legacy connections from the combined system and for ensuring that the correct connections are made to the sewer and to the receiving water. However, the County was engaged as the principal investigator to detect and locate the illicit connections.

The County inspector had a dye testing kit (see Appendix E, Photograph 6) which consisted of different colored dyes, dye tablets, a sewer connection map provided by the sewer district, and forms for documenting the results of dye testing. The inspector placed dye into the toilet at a local mechanic shop while other team members observed flow within the nearest downstream manhole. During the observed activity, dye was observed in the sanitary sewer, indicating that there was not an illicit connection at this site (see Appendix E, Photograph 7). Similar activities had been conducted and were scheduled to continue along the block and adjoining blocks in an effort to locate illicit connections. The County staff appeared to be adequately trained and equipped to conduct the investigations and prior efforts had successfully identified illicit connections in a nearby street. No deficiencies were observed.

ORI Inspection White Center Neighborhood – Intersection of 2nd Avenue South and 104th Street

The EPA Inspection Team observed a county inspector conducting an ORI inspection in the White Center neighborhood (see Appendix E, Photograph 8). The County inspector explained that she was provided an aerial photograph, a county GIS-generated map book, and a log book to confirm the location and type of asset (catch basin, inlet, outlet). Once the asset is located in the field, the inspector takes a photograph with the asset number (written on a white board), draws a sketch of the asset, and records notes on the condition of the asset in the log book. The County was testing a tablet device that could be used to aid the inspection and record and transmit inspection notes to the mapping department. The County had established SOPs and the inspector appeared to be adequately trained and equipped to conduct the inspections. No deficiencies were observed.

Business Inspections at Rainier Avenue South and 115th Place

The EPA Inspection Team met with source control inspectors, reviewed SOPs and documentation, and observed an inspection of a convenience store at this location. The County had established SOPs and documentation and the inspector appeared to be adequately trained and equipped to conduct the inspections. No deficiencies were observed.

Section 2.4 Operation and Maintenance Program

Section S5.C.9.a of the Permit requires the County's SWMP to include a program to conduct and regulate maintenance activities to prevent or reduce stormwater impacts. Pursuant to the Permit, pages 43–53 of the County's 2013 SWMP Plan outline minimum performance measures to implement during operation and maintenance activities at County-owned properties, at roads and stormwater facilities, and at private stormwater facilities.

On July 18, 2013 the EPA Inspection Team conducted site visits at two County-owned stormwater facilities and briefly toured the County's regional vactor decant facility in Renton. The EPA Inspection Team also observed storm drain cleaning activities at two catch basins. The primary purpose of the visits was to observe the County's process for conducting operation and maintenance at its properties and facilities.

Information and observations pertaining to the EPA Inspection Team's site visit to the County's stormwater facility are located below.

Wetpond at Cambridge at the Parks – 17400 SE 185th Place; Renton, Washington

The EPA Inspection Team conducted a site visit at a two-cell wetpond located at the Cambridge at the Parks development (see Appendix E, Photograph 9).

According to the Wetpond Maintenance Section of Appendix A of the *2009 Surface Water Design Manual* (see Appendix D, Exhibit14), maintenance is needed when "grass or groundcover exceeds 18 inches in height." From the site visit it was determined that the vegetation around the perimeter of the pond was greater than 18 inches in height and was in need of maintenance per the *2009 Surface Water Design Manual* standards.

Appendix A of the *2009 Surface Water Design Manual* also states that maintenance is needed at the inlet/outlet pipe of a wetpond when sediment is filling 20% or more of the pipe. During the site visit, the EPA Inspection Team observed that the sediment level in the outlet pipe of the second wetpool cell was at least 20% full. The County's inspector stated that he enters inspection findings in the County's tracking system and that the system sends the Roads maintenance crew a work order to complete maintenance on a stormwater facility.

The EPA Inspection Team observed the following with regard to operation and maintenance at the County's facility:

1. Grass and groundcover throughout the wetpond's area were above the 18-inch maintenance standard and needed to be maintained/mowed (see Appendix E, Photograph 10).
2. The outlet from the second wetpool cell was more than 20% blocked by sediment (see Appendix E, Photographs 12 and 13).
3. Sediment was covering energy dissipating rocks directly below the inlet pipe located on the southern end of the first wetpool cell (see Appendix E, Photographs 14 and 15).

2.4.1. The County's process for conducting and documenting stormwater facility inspections lacks sufficient written procedures and documentation.

Section S5.C.9.b.iii(1) of the Permit states that the County shall:

> Implement a program to annually inspect all permanent stormwater treatment and flow control facilities (other than catch basins) owned and operated by the Permittee, and implement appropriate maintenance action in accordance with adopted maintenance standards. The annual inspection requirement may be reduced based on inspection records. Changing the inspection frequency to less frequently than annually shall be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience.

Page 47 of the 2013 SWMP Plan states, "The County currently uses a "phased" inspection program for its facilities with a maximum inspection frequency of three years. Phased inspections were developed in the mid-1990s to maximize the frequency between inspections using historical data to determine when facilities need inspections. Phasing was implemented in response to the need to reduce costs so that other services could be funded. Since developing the inspection program in the early 1980s, the County has kept records of the maintenance needs and history of over 1,000 flow control and water quality treatment facilities in the inventory. The data show that for a facility that was not maintenance prone, the time between inspections could be lengthened to a maximum of three years with no loss of function."

Page 47 of the 2013 SWMP Plan also states, "The County also looked at what types of maintenance the facilities required to see if less frequent inspections were appropriate. It determined that non-function-critical work (such as ladder repairs, sign replacement, grout work, etc.) did not warrant annual inspections because the likelihood of a reoccurrence was minimal and would not affect the performance of the facility. However, if a facility was found to have sediment deposition, erosion, blockages, or other function-critical failures, the facility would be inspected again the following year (after maintenance or repair had occurred) to see if the condition was reoccurring. Likewise, once the County responds to an emergency callout to a facility and corrects the problem, the facility is inspected the next year to see if the condition reappeared."

During the inspection, the EPA Inspection Team discussed the County's process for determining the phasing for each of the County-owned facilities. County staff stated that the phasing cycle was generated for each facility based on past inspection records and professional judgment. County staff also explained that when facilities were inspected a designation titled of "function critical" was used for facilities that needed immediate maintenance; however they stated that there was not documentation of how function critical was determined and that this was instead determined by best professional judgment. Once a facility was determined to need function-critical maintenance, it was placed on the inspection cycle for the following year. What happened to the future

maintenance schedule of the facility upon completion of the second-year inspection was not clear to the EPA Inspection Team.

The County lacks comprehensive documentation explaining when and how facilities are selected for phased inspections outside of the one-year Permit required timeline, the procedures to determine inspection frequencies over time, and general operating procedures for this program. The County lacks documentation of the criteria used to identify a facility component or condition as function critical.